



U.S. Fish & Wildlife Service

Florida Panther *Update*

November 2011

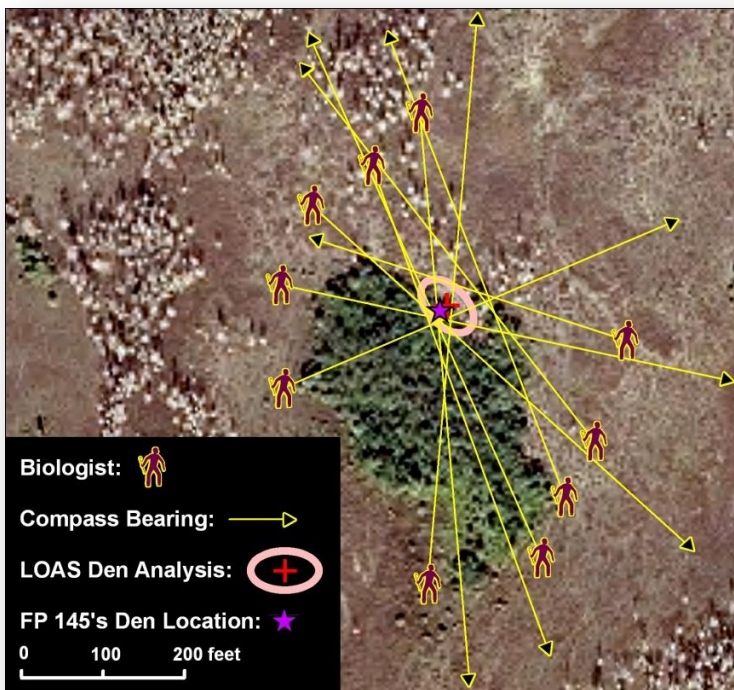
Field Stories

Finding a Panther Den Needle in a Hammock Haystack

By John Kellam, Big Cypress National Preserve (BCNP) Biologist

Locating a small, well-concealed panther den in the middle of a palmetto thicket or hardwood hammock can be a difficult challenge; especially when the dense vegetation surrounding a den is acres in size. How do biologists efficiently find a den, while minimizing human disturbance that may compel the female to move her kittens to another site? The answer is a process termed “triangulation”: determining the location of a point (i.e. panther den) by finding where compass bearings from known points intersect. To do this, we need a radio-collared female panther at her den, a handheld receiver and antenna to hear the collar’s signal, a GPS unit, a compass, a notebook, and a discerning pair of ears.

The following steps are taken to triangulate the den: Step 1) Quietly approach the exterior of the den area, Step 2) Stop and record a location with a GPS unit, Step 3) Listen to the signal from the female’s collar while sweeping the receiver antenna in an arc until the strongest signal is determined. Step 4) Record the compass bearing of the strongest signal and make note of any unique trees that can be used as a reference point, Step 5) Quietly walk to a new location around the den area and repeat steps 1-4.



FP145's June 2011 Den Site Triangulation Map. Figure by John Kellam.



FP145's kitten, camouflaged and tucked away for safe keeping deep in a palmetto thicket, demonstrates the difficulties involved in locating panther kitten dens. Photo © Ralph Arwood

Sometimes the biologist avoids recording bearings from portions of a den area due to dense vegetation, such as saw palmetto, which is impossible to walk through quietly. If the female hears an unusual sound, she may leave the den to see what is causing it and the subsequent bearings will be inaccurate. This natural “alert system” is probably one reason a female often selects saw palmetto in which to den (Reference publication: Benson, J.F., M. A. Lotz, and D. Jansen. 2008. Natal Den Selection by Florida Panthers. *Journal of Wildlife Management*. 72:405-410.). Although a minimum of three compass bearings are needed for a simple triangulation, additional bearings will increase accuracy. We typically record eight to fifteen bearings per den.

Back at the office, the coordinates of the listening sites and their respective compass bearings can be used to draw lines on a map. The intersection of the majority of the lines denotes an approximate den location. Thanks to modern technology, a software program called “Location of a Signal” (LOAS by Ecological Software Solutions LLC), analyzes the triangulation data and provides a coordinate of the probable den site.

We have had great success using LOAS. For example, when FP145 started denning last May, our aerial flights determined that her den was within a 1.8 acre hammock surrounded by prairie. Den triangulation fieldwork was conducted and ten location coordinates and compass bearings were analyzed with LOAS. On June 9th, FP145 was away from her den, so we entered a saw palmetto edge of the hammock from different directions and focused in on the LOAS coordinate. We found three healthy kittens within seven minutes of the start of our search and later confirmed that the den location was within fifteen feet of the LOAS location! Locating a panther den can sometimes seem like trying to find a needle in a haystack; triangulation makes this job easier.

Posse Camera Captures Panther at the Refuge Wildlife Underpass

By Ricky Pires, FGCU Wings of Hope Director

On October 7, around 11AM, FP183 became a celebrity; with a bunch of biologists and school kids, that is. He was traveling under State Road 29 at the Florida Panther National Wildlife Refuge and his image was picked up on a trail camera. Posse trail cams are funded and operated through the Florida Gulf Coast University Wings of Hope "Pennies for Panthers" program. Helping one cent at a time, this fundraiser purchases infrared motion cameras with pennies collected by "Panther Posse" students. These images, like the one taken (right) of a Florida Panther, provide researchers with data about panthers, their offspring and other wildlife.

"That is FP183", commented Marc Criffield of the Florida Fish and Wildlife Conservation Commission, "and he sports a very stylish GSM/GPS collar that claims to send us text messages through the cell towers, but FP183 must have switched the phone to vibrate as it has not been answering our attempts to change the schedule.

This photo is also very interesting because it shows that he moved 5.8 km (3.6 miles) and crossed the road twice in the three hours between the flight location on the refuge and this photo." See more Posse camera photos at www.fgcu.edu/CAS/WingsofHope/photogallery.html



FP183 "Pawing" in Front of a Trail Camera. Panther Posse Trail Cam

Notices and Links

On December 7 at Rookery Bay, **Dennis Giardina, the Everglades Region Biologist for the Florida Fish and Wildlife Conservation Commission (FWC)**, will present "**Capturing Florida Panthers: A Tree Climber's Perspective.**" For the past 22 years, Giardina's career has focused on endangered species recovery and invasive species management. He will discuss his work with FWC and the National Park Service Panther Capture Teams. www.rookerybay.org/upcoming-events

October 22, the **Naples Daily News** published "**Dead or Alive: Researchers Tag Calves on Immokalee-Area Ranches to Track Panther Prey**" by Eric Staats. www.naplesnews.com/news/2011/oct/22/florida-panther-immokalee-ranch-Fish-Wildlife-tag

October 22, **Science 2.0** released an article entitled, "**Analyzing Media Coverage to Gauge Public Opinions toward Conservation Efforts**", by Caitlin Kight.

www.science20.com/anthrophysis/anazlying_media_coverage_gauge_public_opinions_toward_conservation_efforts-83850

My FWC maintains a Florida panther photo album on Facebook. On October 18, it was updated to include many shots taken of FP188's orphaned panther kittens. www.facebook.com/media/set/?set=a.130796333348.106251.90492003348&type=1

See the October Panther Update for their story: www.fws.gov/floridapanther/pdfs/pantherupdate/2011oct.pdf

Collier residents were invited to a **public meeting to learn about "Living with Wildlife" held on October 6.** Presenters were Darrell Land, FWC panther team leader, Mike Orlando, FWC bear biologist, and Dr. Martin Main, professor and wildlife ecologist, coyote expert, University of Florida. The meeting can be viewed in its entirety through Collier County TV.

collier.granicus.com/MediaPlayer.php?view_id=4&clip_id=1017

October 6, **NBC2 posted the video "Human, Wild Animal Encounters on the Rise"** By Sara Miles

www.nbc-2.com/story/15637690/2011/10/06/human-wild-animal-encounters-on-the-rise

September 21, **Defenders of Wildlife posted an article entitled, "On the Road to Extinction"**, which discusses road mortalities and RADS. Defenders is hopeful that the RADS project will raise awareness about the need to drive carefully in panther habitat in Big Cypress National Preserve. www.defendersblog.org/2011/09/on-the-road-to-extinction

October 2, **Florida Today released "Florida Panthers Gain Ground"** by Bill Sargent.

www.floridatoday.com/article/20111002/COLUMNISTS0308/110020312/Florida-panthers-gain-ground

Florida Panther Update Partnership This newsletter is made possible through the efforts of the following agencies:

Florida Fish and Wildlife Conservation Commission (FWC) www.floridapanther.net.org

Big Cypress National Preserve (BCNP) www.nps.gov/bicy

Florida Panther National Wildlife Refuge (FPNWR) www.fws.gov/floridapanther



Past Update Issues: www.floridapanther.org/newsletter.html **Contact us:** floridapanther@fws.gov

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